REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-6, 8-16, and 20 are currently pending in the present application, Claims 7 and 17-19 having been canceled without prejudice or disclaimer, and Claims 1-6, 8-16, and 20 having been amended to clarify features previously presented and to preclude possible interpretation of a lack of clear antecedent basis. No new matter has been added.[1]

In the outstanding Office Action, the drawings were objected to; Claims 16, 17, and 19 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter; Claims 1-12 and 14-20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Snook (U.S. Pat. No. 6,400,378, hereinafter "Snook") in view of Dufaux (U.S. Pat. No. 6,711,587, hereinafter "Dufaux"); and Claim 13 was rejected under 35 U.S.C. § 103(a) as unpatentable over Snook and Dufaux in view of Trivedi et al. (U.S. Pat. Pub. No. 2006/0187305, hereinafter "Trivedi").

In response to the objection to the drawings, the specification has been amended to address the noted informalities in the drawings. Specifically, the specification has been amended to reference the missing numerals in Figs. 10, 14, and 26. Accordingly, Applicants respectfully request that the objection to the drawings be withdrawn.

Regarding the rejection of Claims 16, 17, and 19 under 35 U.S.C. § 101 as being directed to non-statutory subject matter, Claims 17 and 19 are canceled, making the rejection of these claims moot. Claim 17 has been amended to recite a computer readable storage medium encoded with a computer program configured to cause an information processing apparatus to execute a method, and thus define statutory subject matter in view of MPEP §

[1] Claims 1, 15, 16, and 20 are amended to incorporate similar subject matter as that in original Claim 7.

2106. Thus, it is respectfully submitted that the 35 U.S.C. § 101 rejection has been overcome.

Claim 1 has been amended to incorporate similar features as in original Claim 7. Amended Claim 1 recites, in part, a media handling system in which candidate video sequences are displayed on a display screen in schematic form for selection by a user, including

> means for detecting human faces in the candidate video sequences,
> for detecting a probability of a human face being present in each field or frame of the video sequences, and
> for weighting at least some of the detected probability levels depending on the size of the detected face,
> each displayed representation of a candidate video sequence including one or more images representing human faces which have the highest weighted probability levels amongst the respective video sequences.

Thus an advantage of the claims invention is that the picture quality of a picture stamp used to represent a video sequence is improved. It therefore becomes easier for a user to recognize and select different video sequences, for example. By way of a non-limiting example, Applicants' specification describes that a face picture stamp output purely based on face probability does not always give the best quality picture stamp. Therefore, at least some of the detected probability levels are weighted depending on the size of a detected face, and each displayed representation of a candidate video sequence includes one or more representations representing human faces which have the highest weighted probability levels amongst the respective video sequences. This advantageously improves the quality of the representative images making it easier for the user to recognize and select video sequences. For example, if the probability is weighted so that a face whose size is close to 64x64 pixels (i.e. the size of the representative image) is most likely to be used as the representative image, rescaling factors may be reduced and picture quality improved.[2]

[2] See, for example, page 30, lines 7-8 of the specification. Additionally, see the specification at least at page 29, line 30 to page 31, line 18, and page 29, line 30 to page 30, line 11, for further details.

Snook is directed to a home movie editor for editing images. As such, Snook describes a system for displaying video sequences which are each represented by a corresponding keyframe thumbnail. While a user in Snook may select the thumbnails to define a set of video sequences, Applicants respectfully submit that Snook is silent regarding detecting human faces in candidate video sequences. Therefore, Snook does not disclose or suggest "means for detecting human faces in the candidate video sequences, for detecting a probability of a human face being present in each field or frame of the video sequences, and for weighting at least some of the detected probability levels depending on the size of the detected face, each displayed representation of a candidate video sequence including one or more images representing human faces which have the highest weighted probability levels amongst the respective video sequences," as recited in amended Claim 1.

Dufaux is directed to a system for generating keyframes from video content downloaded from the Internet. However, Applicants respectfully submit that Dufaux is silent regarding a user control for defining a set of one or more video sequences. To the extent that Dufaux describes the use of face detection to generate keyframes, the following remarks are respectfully submitted.

The system of Dufaux uses a neural network having a fixed size window (col. 7, lines 3-5) to detect faces (col. 5, lines 13-57). However, the output is a single-valued output which indicates whether an image comprises a face (col. 3, lines 45-47). Dufaux further describes the use of pyramid scaling to find different sized faces (col. 6, lines 24-38). However, Dufaux merely uses the pyramid scaling to detect faces at different scales within a video sequence. However, Applicants respectfully submit that Dufaux is silent regarding weighting a detected probability level depending on a size of a detected face.

Indeed, Dufaux describes generating an "interesting shot" marker (col. 11, lines 25-28) by weighting different factors such as skin pixel color, the number of faces detected in a

frame, entropy of all frames in a shot, and pixel-wise frame difference (col. 11, line 38 to col. 12, line 28). However, the weighting in Dufaux is selected depending on the reliability of the factor to generate an "interesting shot." For example, where there is a high degree of motion between frames of a shot, the weighting given to entropy is reduced so that the other factors are more significant in selecting the "interesting shot" (col. 11, lines 40-43). Accordingly, Dufaux is directed to and describes detecting and selecting an interesting shot and not improving the quality of the shot.

Accordingly, Applicants respectfully submit that Snook and Dufaux are both silent regarding weighting at least some of the detected probability levels depending on the size of a detected face so as to improve the image quality of the representative image.

M.P.E.P. § 2143.03 requires that all words in a claim must be considered in judging the patentability of the claim against the prior art. M.P.E.P. § 2141.02(I) requires that the claimed invention must be considered as a whole.

Therefore, for all of the above reasons, Snook and Dufaux, either separately or combined, do not disclose or reasonably suggest "means for detecting human faces in the candidate video sequences, for detecting a probability of a human face being present in each field or frame of the video sequences, and for weighting at least some of the detected probability levels depending on the size of the detected face, each displayed representation of a candidate video sequence including one or more images representing human faces which have the highest weighted probability levels amongst the respective video sequences," as recited in Claim 1.

Consequently, Applicants submit that the Official Action has failed to produce a *prima facie* case of obviousness against the whole of Claim 1.

Therefore, Applicant respectfully submits that independent Claim 1 and claims depending therefrom, are allowable.

Independent Claim 15 and 20, while differing in scope and statutory class from Claim 1, patentably define over Snook and Dufaux for substantially the same reasons as Claim 1. Accordingly, it is respectfully submitted that Snook and Dufaux do not anticipate or render obvious the features of independent Claims 15 and 20. Therefore, independent Claim 15 and 20 are believed to patentably define over Snook and Dufaux.

With regard to the rejection of Claim 13 as unpatentable over Snook in view of Dufaux and in further view of Trivedi, it is noted that Claim 13 is dependent from Claim 1, and thus is believed to be patentable for at least the reasons discussed above. Further, it is respectfully submitted that Trivedi does not cure any of the above-noted deficiencies of Snook and Dufaux. Accordingly, it is respectfully submitted that Claim 13 is patentable over Snook, Dufaux, and Trivedi.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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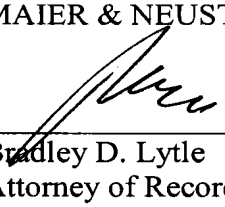

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